



Serial No. 09/707,852

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S1417/7004 TJO

REMARKS

This is a preliminary amendment in which the Applicant has eliminated multiple dependencies.

A favorable first action is respectfully requested.

If, for any reason, the Examiner is of the opinion that a telephone conversation with the Applicant's representative would expedite prosecution, the Examiner is invited to contact the undersigned at 617-573-7851.

Respectfully submitted,

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MARKED-UP CLAIMS

6. (Amended) A reactor as in [any preceding claim] claim 1, wherein the reaction unit comprises an etched portion of an article.

8. (Amended) A reactor as in [any preceding claim] claim 1, wherein the collection chamber comprises etched silicon.

9. (Amended) A reactor as in [any preceding claim] claim 1, further comprising a mixing unit fluidly connectable to the inlet of the reaction chamber.

14. (Amended) A reactor as in [any of claims 9-13] claim 9, wherein the mixing unit is attachable to and separable from the reaction unit.

15. (Amended) A reactor as in [any of claims 9-14] claim 9, wherein the mixing chamber includes a volume, between the plurality of inlets and the outlet, of less than 1 liter.

16. (Amended) A reactor as in [any of claims 9-14] claim 9, wherein the mixing chamber includes a volume, between the plurality of inlets and the outlet, of less than 10 microliter.

17. (Amended) A reactor as in [any of claims 1-8] claim 1, further comprising a heating unit having an inlet, and an outlet connectable to the inlet of the reaction chamber, the heating unit separable from and attachable to the reaction chamber.

18. (Amended) A reactor as in [any of claims 1-8] claim 1, further comprising a heating unit having an inlet, and an outlet fluidly connectable to the inlet of the reaction chamber, the heating unit separable from and attachable to the reaction chamber.

20. (Amended) A reactor as in [any of claims 1-8] claim 1, further comprising a heating and dispersion unit having an inlet, and an outlet connectable to the inlet of the reaction chamber, the heating and dispersion unit separable from and attachable to the reaction chamber.

23. (Amended) A reactor as in [any of claims 18-22] claim 18, wherein the dispersion unit is constructed and arranged to maintain fluid exiting the unit through the plurality of outlets at a temperature of approximately 30°C.

24. (Amended) A reactor as in [any preceding claim] claim 1, wherein the reaction chamber is constructed and arranged for cell cultivation.

26. (Amended) A reactor as in [any preceding claim] claim 1, further comprising a separation unit having an inlet and an outlet, the inlet connectable to the outlet of the reaction chamber.

28. (Amended) A reactor as in [either of claims 26 or 27] claim 26, wherein the separation unit includes an inlet connectable to the outlet of the reaction chamber, a carrier fluid outlet, a fluid pathway connecting the inlet with the carrier fluid outlet, and a size-selective membrane positioned to contact fluid flowing from the inlet to the fluid carrier outlet.

30. (Amended) A reactor as in [either of claims 28 or 29] claim 28, wherein the carrier fluid outlet is connectable to a recovery container for recycling of reaction carrier fluid.

31. (Amended) A reactor as in [any preceding claim] claim 1, further comprising at least one sensor of temperature, pH, oxygen concentration, or pressure.

33. (Amended) A reactor as in [any preceding claim] claim 1, including a plurality of reaction chambers, attachable to and separable from each other, constructed and arranged to operate in parallel.

43. (Amended) A method as in [any of claims 39-42] claim 39 comprising carrying out the chemical or biological reaction in parallel in at least 10 reaction chambers, and discharging product from each of the reaction chambers into the collection chamber.

44. (Amended) A method as in [any of claims 39-42] claim 39 comprising carrying out the chemical or biological reaction in parallel in at least 100 reaction chambers, and discharging product from each of the reaction chambers into the collection chamber.

45. (Amended) A method as in [any of claims 39-42] claim 39 comprising carrying out the chemical or biological reaction in parallel in at least 500 reaction chambers, and discharging product from each of the reaction chambers into the collection chamber.

46. (Amended) A method as in [any of claims 39-42] claim 39 comprising carrying out the chemical or biological reaction in parallel in at least 1,000 reaction chambers, and discharging product from each of the reaction chambers into the collection chamber.